

**IN THE UNITED STATES DISTRICT COURT
FOR THE EASTERN DISTRICT OF TEXAS
MARSHALL DIVISION**

SYNQOR INC.,

Plaintiff,

v.

VICOR CORPORATION,

Defendant.

C. A. No. 2:14-cv-00287-RWS-CMC

JURY TRIAL DEMANDED

**DEFENDANT VICOR CORPORATION'S MOTION FOR SUMMARY JUDGMENT
THAT CIRCUITS CONTAINING VICOR BUS CONVERTERS DO NOT INFRINGE
THE ASSERTED SYNQOR PATENT CLAIMS AND REQUEST FOR HEARING**

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Reexaminations of SynQor’s patents by the USPTO have confirmed what Vicor has maintained: SynQor’s broadest patent claims are invalid, and the remaining claims include limitations that exclude Vicor’s bus converters (the “Accused Converters”). Prior to the stay in this case, Vicor fully briefed and argued a meritorious motion for summary judgment of no direct infringement that would have disposed of SynQor’s patent claims entirely. During the stay, Vicor’s summary judgment arguments have only grown stronger, as SynQor’s broadest patent claims were invalidated, and the surviving patent claims were further narrowed by binding statements SynQor made before the USPTO.

Each of the surviving patent claims include two key limitations that SynQor relied upon during the reexaminations to distinguish prior art: (i) “each controlled rectifier being turned on and off in synchronization with the voltage waveform across a primary winding” (the “**in synchronization**” limitation); and (ii) “transition times which are short relative to the on-state and off-state times of the controlled rectifiers” (the “**short transitions**” limitation). Each of these limitations serves as an independent basis for finding non-infringement of all asserted claims.

██

██

████████████████████ The reasons for non-infringement raised here relate to purely legal issues regarding claim scope. These issues are therefore ripe for summary judgment and a hearing before the Court.

First, none of the Accused Converters satisfy the “**in synchronization**” limitation. The Court’s construction for this limitation requires “each controlled rectifier being turned from on to off and from off to on *at some point in the course* of the change of the voltage waveform across a primary winding.” ECF No. 4 at 6 (emphasis added). Because this limitation is present in all

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remaining claims, it alone is sufficient to resolve the entire infringement case. [REDACTED]

[REDACTED]

[REDACTED]

[REDACTED] SynQor offers nothing to the contrary: Its own expert, Dr. Leeb,¹ currently asserts that Vicor CRs switch *exactly on the boundary* of the relevant time period, which could not meet the Court’s construction requiring CRs to switch “in the course” of the relevant period.

This theory also represents a fundamental change: Dr. Leeb had initially taken the position that Vicor’s CRs switched at some point within the primary winding voltage transition period. However, in response to a showing that Dr. Leeb’s interpretation of his own test data was incorrect,

[REDACTED]

[REDACTED] Dr. Leeb served a rebuttal infringement report taking the new positions that 1) it did not matter when each CR in the Accused Converters turned on and off; and 2) actual switching of the Vicor CRs occurs precisely coincident with the beginning and the end of the transition, *i.e.*, at the “shoulders” of the primary winding voltage transitions.

¹ On January 31, 2022, SynQor stated that Dr. Leeb has withdrawn from the case for “personal reasons.” Ex. 12 (Email from M. Hatcher to L. Brewer Jan. 31, 2022). At the February 2, 2022 Status Conference, the Court stated that it would allow another expert to substitute in for Dr. Leeb only on the condition that any new expert must adopt all of Dr. Leeb’s opinions and testimony *verbatim*. Ex. 14 (Feb. 2, 2022 Hearing Tr.) at 23:11-28:25. Given the formal substitution has not yet occurred, this motion addresses SynQor’s expert’s opinions and testimony as “Dr. Leeb’s opinions” for the sake of simplicity and expediency, so that Vicor is not prejudiced by any delays associated with the substitution.

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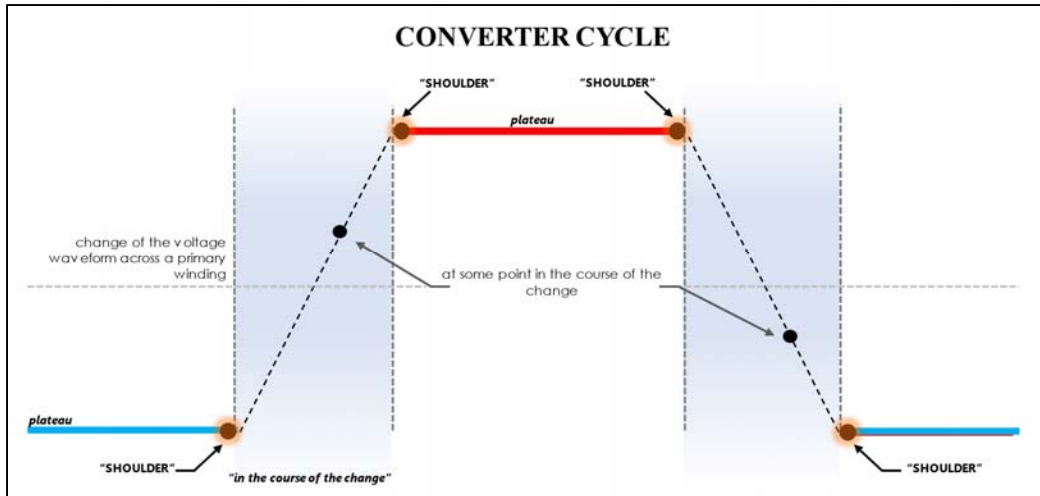


Figure 1 showing "at some point in the course of the change."

Dr. Leeb's first new theory violates the Court's claim construction and should be rejected as a matter of law. The second new theory fails to raise any *genuine* issue of fact because, even if switching occurs as Dr. Leeb contends, it *still* [REDACTED]

[REDACTED] These issues stem from the legal question regarding the proper scope of the Court's claim construction and are properly determined as a matter of law.

Second, and independently, the "**short transitions**" limitation—a requirement of all remaining Asserted Claims—justifies summary judgment. This Court has already construed the "short transitions" limitation to require that "the sum of all transition times totals less than 20% of the overall on-state and off-state times of the controlled rectifiers."² ECF No. 4 at 20. [REDACTED]

[REDACTED] In fact, based on Dr. Leeb's own testing, [REDACTED]

² The Court construed "transition times" to mean "time periods during which a change of a voltage waveform occurs across a primary winding." ECF No. 4 at 20.

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[REDACTED] The only issue relating to these Accused Converters is whether SynQor can expand the scope of the claims using the doctrine of equivalents. It cannot, as a matter of law, for multiple reasons.

SynQor's doctrine of equivalents theory would improperly circumvent the express requirements of the Court's claim construction. Additionally, SynQor's theory would also allow it to improperly recapture subject matter that it *already* conceded to the Court was disclaimed by the patent specification and reexamination history. Finally, SynQor's reliance on the doctrine of equivalents is further precluded by well-established principles of prosecution disclaimer because SynQor repeatedly argued during the reexaminations that 1) the claims were distinguishable from prior art that lacked short transitions, and 2) the broadest reasonable interpretation of "short transitions" *required* transitions be no longer than 20%. Consistent with this position, the Federal Circuit declined to invalidate the surviving claims of the '190 patent on the basis of the "short transitions" limitation, while holding that other claims lacking this limitation were anticipated by the prior art. Thus, the Court should grant summary judgment that SynQor may not rely on the doctrine of equivalents for the "short transitions" limitation.

I. BACKGROUND**A. Technical Background**

The technology at issue in this case relates to DC-DC power converters which receive a direct current ("DC") input at one voltage and generate a DC output at a different voltage. *See, e.g.,* Ex. 1 (Habetler Rep. May 9, 2014) at ¶¶ 35-36. In general, DC-DC converters use a

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“transformer” to convert electrical power from one voltage to another. *Id.* at ¶ 148. A transformer has “primary” and “secondary” windings linked together by a magnetic “core.” *Id.* ¶ 38. To avoid core saturation, voltage and current in the primary winding reverse polarity in each converter cycle. *Id.* at ¶ 41. This is known as alternating current (“AC”). *Id.* ¶ 36. Because input power to the Accused Converters is DC, that input must be converted to AC through the use of power switches that are connected to the primary winding and controlled to turn on and off at appropriate times. *Id.* ¶¶ 41. This switching operation causes the voltage across the primary winding of the transformer to switch back and forth between voltage states of opposite polarities. *See* “plateaus” in Figure 1 above.⁴ The time when the voltage is transitioning between those states is called the “transition time.” *See, e.g.,* Ex. 3 (’190 patent) at 2:14-17.

To convert AC back to DC, converters include transistor switches connected to the secondary winding that selectively block output current, so that it flows only in the desired (“forward,” or output) direction. Ex. 1 (Habetler Rep. May 9, 2014) at ¶ 42. These switches are called controlled rectifiers (“CRs”). *Id.* ¶¶ 42, 45.

B. The Asserted SynQor Claims

The SynQor Patents in this case have been the subject of reexaminations that have significantly narrowed the issues in dispute. Post-reexamination, the only asserted patent claims that remain at issue are claims 2, 19, 28, and 31 of U.S. Patent 7,072,190 (“the ’190 patent”), and claims 55, 67, and 71 of U.S. Patent 7,564,702 (“the ’702 patent”) (together, the “Asserted Claims” of the “Asserted Patents”).⁵ All remaining Asserted Claims include limitations requiring specific

⁴ “Plateau” is the term used by Dr. Leeb to describe the voltage state of the primary winding voltage waveform before and after the change. *See* Ex. 2 (Leeb First Supp. Rep. May 2, 2014) at ¶ 238.

⁵ As discussed at the February 2, 2022 Status Conference, this motion does not address U.S. Patent No. 8,023,290 (“the ’290 patent”) due to SynQor’s statement in its Motion to Stay that it would agree to dismiss with prejudice the ’290 patent in exchange for a lift of the stay and the setting of a prompt trial date (ECF No. 302 at 10), the Court’s acceptance of SynQor’s agreement

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ways of controlling the turn on and turn off of the power switches and the CRs. Each of the Asserted Claims require two key limitations which are the focus of this motion.

First, each of the Asserted Claims require that the CRs be turned on and off “**in synchronization**” with the transition of the primary winding voltage as it switches between high and low voltage states. Again, the Court has construed this “in synchronization” limitation to require “each controlled rectifier being turned from on to off and from off to on at some point in the course of the change of the voltage waveform across a primary winding.” ECF No. 4 at 6. SynQor argued during reexamination that the “in synchronization” feature was fundamental, enabling technology that distinguished both Asserted Patents over the prior art. *See* Ex. 4 (SynQor Response to Office Action (Control No. 90/014,041 for the ’702 patent)) at 113-14; Ex. 5 (SynQor Response to Office Action (Control No. 90/014,180 for the ’190 patent)) at 55-56.

Second, each of the Asserted Claims also require that the claimed CRs transition between off and on states in a “short” amount of time. Specifically, the Asserted Claims require “transition times which are short relative to the on-state and off-state times of the controlled rectifiers.” The Court has construed this “**short transitions**” limitation to require “the sum of all transition times

to dismiss the ‘290 patent with prejudice as a condition for lifting the stay (ECF No. 311 at n. 11), and the parties’ agreement regarding the terms of the dismissal (Ex. 13 (Email from L. Brewer to M. Hatcher Dec. 9, 2021)). Based on SynQor’s clear written representations to the Court, Vicor expects the ‘290 patent to be dismissed immediately and does not agree with SynQor’s new argument to the Court on February 2, 2022 that it is appropriate to defer the dismissal to a later time. In the interests of judicial economy, Vicor would like to clarify for the Court that a decision in Vicor’s favor of no infringement based on the lack of an “in synchronization” limitation in the accused products would in any event be dispositive of the asserted claims of the ‘290 patent claims, all of which contain that same limitation. *See, e.g.*, ECF No. 102 at 16. However, Vicor understands from the Court’s guidance at the February 2, 2022 Status Conference that the Court agrees that such a determination is unnecessary because SynQor should be held to its written representation that it would dismiss the ‘290 patent once it received a trial date, which has now occurred. *See* Ex. 14 (Feb. 2, 2022 Hearing Tr.) at 35:4-36:15.

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totals less than 20% of the overall on-state and off-state times of the controlled rectifiers.” ECF No. 4 at 20. SynQor again argued during re-examination of the ’190 and ’702 patents that the “short transitions” limitation was another fundamental, enabling feature of the Asserted Patents that distinguished both over the prior art. *See* Ex. 4 (SynQor Response to Office Action (Control No. 90/014,041 for the ’702 patent)) at 138; Ex. 5 (SynQor Response to Office Action (Control No. 90/014,180 for the ’190 patent)) at 78-79.

C. The Accused Vicor Bus Converters

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

D. Statement of Undisputed Facts for Purposes of This Motion Only

[REDACTED]

[REDACTED]

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[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

E. Statement of Issues To Be Decided By The Court

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

II. LEGAL STANDARD

Summary judgment is appropriate when there is no genuine issue of material fact. Fed. R. Civ. P. 56. “An issue of material fact is genuine if the evidence could lead a reasonable jury to find for the non-moving party.” *Renhcol Inc. v. Don Best Sports*, 548 F. Supp. 2d 356, 359 (E.D. Tex. 2008). “If the moving party has made an initial showing that there is no evidence to support the nonmoving party’s case, the party opposing the motion must assert competent summary judgment evidence of the existence of a genuine fact issue. ... Mere conclusory allegations ... are not competent summary judgment evidence.” *Id.* Rather, “the party opposing summary judgment is required to identify evidence in the record and articulate the manner in which that evidence

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supports his claim.” *Id.* Patent infringement cases are amenable to summary judgment where the record fails to support the non-movant’s claims. *E.g., Fujitsu Ltd. v. Netgear Inc.*, 620 F.3d 1321, 1338 (Fed. Cir. 2010) (affirming summary judgment of non-infringement where plaintiff’s expert’s tests failed to establish claim limitation was met).

III. ARGUMENT

A. [REDACTED]

Under a proper interpretation of the Court’s construction for “in synchronization,” Vicor is entitled to summary judgment that no Accused Converters infringe any Asserted Claim. The Court construed the “in synchronization” limitation to mean “each controlled rectifier being turned from on to off and from off to on at some point *in the course of the change* of the voltage waveform across a primary winding.” ECF No. 4 at 6 (emphasis added). [REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

The Court’s construction plainly requires a comparison between (i) the *point in time* at which each of the CR turns on or off; and (ii) the period of time *during which* the voltage waveform across the primary winding changes. [REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED] SynQor’s theory fails as a matter of law.

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1. [REDACTED]

(a) SynQor's Constantly Changing Infringement Theories

To distill the issue, the history of SynQor’s pre-stay infringement positions is instructive.

██████████ The voltage on the “gate” terminal of a CR controls whether a CR is on or off.

SynQor's infringement expert, Dr. Leeb, examined the gate voltage waveforms of Vicor's CRs in a Supplemental Opening Expert Report. [REDACTED]

[REDACTED]

However, as discussed in Vicor’s separately filed *Daubert* Motion, the MLP concept was manufactured by Dr. Leeb for purposes of this litigation—“Miller-*like* plateaus” do not exist in

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scientific literature. *See* ECF. No. 103. [REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED] To this day, Dr. Habetler's

[REDACTED]
[REDACTED]
[REDACTED]
[REDACTED]

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test results have not been rebutted or disputed by contrary evidence.

Dr. Leeb had the opportunity to submit a Rebuttal Infringement Report to respond to Dr. Habetler's testing and opinions. But, Dr. Leeb did not dispute the factual assertions and findings of Dr. Habetler. [REDACTED] In its place, Dr. Leeb concocted a new theory using an unfounded claim interpretation and a reimagined interpretation of his original tests.

[REDACTED] According to Dr. Leeb's new "process" theory: "As long as at least some part of the *turn on (and turn off) process* occurs during the course of the change of the voltage waveform across a primary winding, this claim language is satisfied." *Id.* [REDACTED]

Thus, Dr. Leeb opined that it does not matter when each CR in the Accused Converters changes state to on or off, because the Court's claim construction purportedly only required that the CRs are "*being* turned on" and "*being* turned off" during the transition periods of the primary winding. *Id.* at ¶¶ 2-3, 6-9. According to Dr. Leeb, so long as the voltage on the gates of a CR was rising or falling (*i.e.*, the switching process was underway but the CRs had not yet turned on or off) at *any* point during the transition, the claim was satisfied. *Id.* ¶ 7. This reinterpretation of the Court's claim construction drastically broadened the interpretation on which Dr. Leeb relied

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in his Opening Report. [REDACTED]

[REDACTED]

Second, as a tacit acknowledgment of the weakness of this new “process” argument, Dr. Leeb offered a fallback opinion purporting to show infringement under the correct reading of the “in synchronization” limitation. According to this new fallback position—the “shoulders” interpretation—[REDACTED]

[REDACTED] *Id.* at ¶ 21. But, in order to opine on infringement under his “shoulders” theory, Dr. Leeb expands the Court’s language “in the course of the change” to include times at the boundary before the transition starts or after it ends. Specifically, Dr. Leeb’s theory turns on his counter-textual opinion that both the precise moment before the change begins, and the precise moment after the change concludes are somehow “in the course” of the change.

(b) SynQor’s “Process” Infringement Theory Violates The Court’s Claim Construction

SynQor and Dr. Leeb’s infringement theory based on the “process” of turning on and off should be rejected as a matter of law, because it misinterprets the Court’s construction of the “in synchronization” limitation. [REDACTED]

[REDACTED] This interpretation was the primary theory in Dr. Leeb’s Rebuttal Infringement Report, *see Id.* at ¶¶ 2-3, 6-9, [REDACTED]

[REDACTED] The Court should reject this interpretation, as a matter of law, because it is inconsistent with the construction agreed to by the parties and adopted by the Court.

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The agreed-upon construction requires “each controlled rectifier being turned from on *to off* and from off *to on* at some point in the course of the change of the voltage waveform across a primary winding.” ECF No. 4 at 38 (emphasis added). The text of this construction draws a clear connection between the *specific moments in time* when each controlled rectifier changes state from on to off or vice versa (*i.e.*, “at some point”) and the transition period during which the voltage waveform across a primary winding is changing (*i.e.*, “in the course of the change”). This construction plainly requires that the moments that the CRs change state from off to on and from on to off be “at some point” within the time period (*i.e.*, “in the course”) that the primary voltage waveform is changing. [REDACTED]

SynQor and Dr. Leeb now argue that the Court’s construction merely refers to a “process” of CRs switching and that the claim will be satisfied if *any part* of the CR change from on to off or off to on occurs during the relevant period. In support, SynQor attempts to leverage language in the Court’s claim construction referring to the CRs “*being*” turned from on to off and from on to off. But, in context, the “being” language does not imply any “process” as SynQor and Dr. Leeb contend. Rather, use of the word “being” merely maintains parallelism with the verb tenses used throughout the rest of the claim. *Compare* Ex. 3 (’190 patent) at claim 1 (reciting “primary transformer winding circuit *having* . . .”; “secondary transformer winding circuit *having* . . .”; “*having* plural controlled rectifiers”). Accordingly, the “process” argument finds no support in the plain text of the Court’s claim construction.

Indeed, the Court has already all but rejected SynQor’s misinterpretation of the “in synchronization” limitation. Prior to the stay, SynQor sought to exclude Dr. Habetler’s non-infringement opinions on the grounds that he improperly focused on the precise moment in time in which a CR switched relative to the change in the voltage waveform across the primary winding.

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ECF No. 101 at 8-10. The Court denied this request and agreed that Vicor’s interpretation of the claim construction was “reasonable,” and that the “being” portion of the construction was just to maintain consistency with the verb tense in the rest of the claim. ECF No. 241 at 3-4. This reasoning properly rejected the very basis for SynQor’s “process” theory of infringement.

Dr. Leeb’s new “process” theory also contradicts SynQor’s position before the USPTO during reexamination. There, SynQor used the “actual state change” interpretation of the claims (consistent with the Court’s intended construction) to distinguish the claims from the prior art. In a June 20, 2018 Response to Office Action in Reexamination No. 90/014,041 (concerning the ’702 Patent), SynQor argued to the Examiner that to determine whether prior art CRs met the claims, it was necessary to consider the specific point in time at which they turn on and off, *i.e.* the moment they change state, relative to the time period of the change in the voltage waveform across the primary winding. SynQor argued that certain prior-art CRs turn off and on when “the gate voltage of the” rectifier was positive or negative relative to the source terminal, respectively. Ex. 4 (SynQor Response to Office Action (Control No. 90/014,041 for the ’702 patent)) at 87-88. SynQor then argued that the CRs in the prior art did not satisfy the “in synchronization” limitation because they “would not transition to the appropriate ‘on’ or ‘off’ state” during the transition time of the waveform of the primary winding. *Id.* at 88.⁷ In other words, to distinguish the prior art,

⁷ SynQor also argued that the architecture of the prior art circuit, which is “voltage fed,” was fundamentally at odds with a circuit that performed “in synchronization” switching as claimed. Ex. 5 (SynQor Response to Office Action (Control No. 90/014,180 for the ’190 patent) at 40-41. SynQor argued that this architecture would create an “impossible stalemate”—a “Catch-22”—that would not allow the winding voltage to change, making the circuit inoperable.” *Id.* at 41.

[REDACTED]

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SynQor emphasized the specific time that the CRs switched from on to off and from off to on—*i.e.*, the moment the CRs change state. This reexamination position cannot be squared with SynQor’s new infringement theory. Given SynQor’s clear and unmistakable position regarding the scope of the “in synchronization” limitation in the reexamination (that the moment at which the CRs change state is the appropriate measure), SynQor cannot advance its novel broader “process” interpretation here.

For all these reasons, SynQor’s “process” interpretation should be rejected as a matter of law. Summary judgment of non-infringement of the Accused Converters is warranted. *See TechSearch, L.L.C. v. Intel Corp.*, 286 F.3d 1360, 1373-74 (Fed. Cir. 2002) (granting summary judgment where infringement analysis based on an errant interpretation of the claim construction).

(c) Dr. Leeb’s Fallback “Shoulders” Theory of Infringement Also Fails As a Matter of Law

Not only does SynQor’s “process” infringement theory violate the Court’s claim construction, but its fallback “shoulders” theory is also at odds with the Court’s construction and cannot support a finding of infringement. [REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

Dr. Leeb's new "shoulders" theory is factually irreconcilable with his former theory that the CRs turn off and on *during* the primary winding transition. [REDACTED]

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Even if not excluded, however, Dr. Leeb’s new “shoulders” argument violates the Court’s claim construction. [REDACTED]

[REDACTED] But the Court’s construction plainly requires that each controlled rectifier turn on and off, at some point “*in the course of the change*” of the voltage waveform across a primary winding. The plain, ordinary, and intended meaning of the phrase “in the course of the change” is “during” or while the change in voltage across the primary winding is underway. “In the course of the change” covers the period of time when the primary voltage is changing, *i.e.*, *after* the transition has begun, and *before* it completes. Any point in time before the voltage begins changing or after the voltage stops changing is simply not “in the course of the change.”

[REDACTED]

[REDACTED]

[REDACTED] Between these plateaus (during transition times), the voltage across the primary winding changes continuously from one plateau to the other, *e.g.* it changes from a positive plateau to a negative plateau, or vice versa. The result is that phrase “*in the course of the change of the voltage*” expressly *excludes* the voltage plateaus, including the so-called “shoulders”, *i.e.*, moments demarcating the start and the end of the transition which *cannot* occur “in the course of the change.” *See* Figure 1, *supra* (noting shoulders). Accordingly, SynQor’s “shoulders” theory, which attempts to include times outside of the transition, should be rejected by the Court.⁸

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Similar reasoning has been applied to similar phrases in other district courts (including in this District). *See MacroPoint, LLC v. Ruiz Food Products, Inc.*, 2018 WL 887434, at *3-5 (E.D. Tex. 2018) (construing “within the telephone call” to mean “within the time period between the initiation of the telephone call by dialing a number and the termination of the call” and not to include preliminary signals that may be sent while the call is being connected); *Vesture Corporation v. Thermal Solutions, Inc.*, 284 F Supp. 2d 290, 308 (M.D.N.C. 2003) (construing “during the course of heating” to mean “the time period after the induction heatable element of the food-holding container has begun heating . . .”). Events at the boundaries of a transition are not events that occur “in the course” of the transition period.

Even if the phrase “in the course of the change of the voltage” were interpreted to include the “shoulders,” Vicor is still entitled to summary judgment. [REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

Such
conclusory expert opinion regarding an accused device is not sufficient to create a genuine issue

[REDACTED]

[REDACTED]

[REDACTED]

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of material fact regarding infringement at summary judgment. *See Intellectual Sci. & Tech., Inc. v. Sony Elecs., Inc.*, 589 F.3d 1179, 1184-87 (Fed. Cir. 2009). [REDACTED]

[REDACTED]

[REDACTED]

Accordingly, the shoulders theory not only fails to satisfy the Court's claim construction as a matter of law, it also fails to raise any genuine issue of fact to avoid summary judgment of no literal infringement.

2. *SynQor's Theory of Infringement Under the Doctrine of Equivalents Is Incorrect as a Matter of Law*

SynQor's fallback position, that the "in synchronization" limitation may be satisfied under the doctrine of equivalents, must be rejected as a matter of law because the infringement theory would vitiate the claim limitation. SynQor's theory would also violate the Federal Circuit's "dedication/disclosure" rule, which prevents a patentee from recapturing subject matter deliberately left unclaimed, as set out in *Johnson & Johnson Associates Inc., v. R.E. Service Co.*, 285 F.3d 1046, 1054 (Fed. Cir. 2002).

SynQor's theory of equivalents is based on the assertion that actual switching outside of the transition, rather than "in the course" of the transition, would constitute an equivalent and therefore still infringe the Asserted Claims. This is wrong because it would vitiate entirely the "in synchronization" limitation. In essence, SynQor seeks to cover the opposite switching logic, *i.e.*, switching outside of, as opposed to within, the primary winding voltage transition. Vitiating is a question of law for the Court and turns on whether the proposed finding of an equivalent would render the limitation meaningless. *See Freedman Seating Co. v. Am. Seating Co.*, 420 F.3d 1350, 1358 (Fed. Cir. 2005).

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In *Freedman*, the Federal Circuit reversed a district court’s finding of infringement based on the doctrine of equivalents because it vitiated a limitation of the patent claims. *Id.* at 1352. The patented technology in *Freedman* was a “stowable seat” used in public transportation. *Id.* The claim at issue required a support for the seat called a “slider crank” which was “slidably mounted” to the seatbase. *Id.* at 1354. The defendant’s implementation of a “stowable seat,” however, did not use a “slider crank” for support, but rather an extra set of “rotatably mounted” joints located in the midsection of the seat. *Id.* The Federal Circuit barred a finding of infringement under the doctrine of equivalents because it would entirely vitiate the “slidably mounted” limitation. *Id.* at 1361. In support of their decision, the Court stated, “We think that this structural difference in the mounting of the moveable end to the seatbase is not a ‘subtle difference in degree,’ but rather, ‘a clear, substantial difference or difference in kind.’” *Id.*

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

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[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

SynQor’s theory of equivalents also fails as a matter of law because it violates the Federal Circuit’s “dedication/disclosure” rule. “[W]hen a patent drafter discloses but declines to claim subject matter, as in this case, this action dedicates that unclaimed subject matter to the public. Application of the doctrine of equivalents to recapture subject matter deliberately left unclaimed would ‘conflict with the primacy of the claims in defining the scope of the patentee’s exclusive right.’” *Johnson*, 285 F.3d at 1054. Here, the specification explicitly discloses an alternative, unclaimed, design where turn-on and turn-off of the controlled rectifier is intentionally set to occur outside of the transition. Ex. 3 (’190 patent) at 14:13-30.

SynQor has argued that the disclosure-dedication rule does not bar application of the doctrine of equivalents because the unclaimed embodiment is not “specifically disclosed as an alternative to the ‘in synchronization’ limitation.” ECF No. 122 at 16-17. Not true. In prior litigation, SynQor expressly acknowledged that the column 14 embodiment teaches an alternative to turning the CRs on and off during the transitions, namely to do so “at times other than when the primary winding voltage transitions.” No. 2:07-cv-497, ECF No. 416 at 21. Thus, the embodiment at column 14, describing CR switching other than during the primary winding transition, is clearly an unclaimed embodiment which had been dedicated to the public. As a matter of law, SynQor cannot “recapture” this embodiment under the doctrine of equivalents.

B.

1. SynQor's Doctrine of Equivalents Theory Would Vitate The Express Claim Requirement

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encompassing measures beyond what is prescribed in the claim. *Moore v. Standard Register*, 229 F.3d 1091 (Fed. Cir. 2000), is highly instructive. In *Moore*, Moore argued that longitudinal strips on Standard Register’s forms which extended but “a minority of the length of its longitudinal margins” were equivalent to Moore’s claimed strips which extend a “majority of the length” of the longitudinal margins. *Id.* at 1105. Moore argued there was a genuine issue of material fact as to whether longitudinal strips that extended about 48% of the length are insubstantially different from strips that extended 50.001% of the length. *Id.* at 1106. The Federal Circuit found that the use of the term “majority” was not entitled to a scope of equivalents covering a “minority” for two reasons: 1) to allow what is indisputably a minority (*i.e.*, 47.8%) be equivalent to a majority would vitiate the ‘majority’ and the limitation would not be necessary and 2) it would defy logic to conclude that a minority—the opposite of a majority—is insubstantially different from a claim limitation requiring a majority. *Id.*

The Court’s reasoning in *Moore* precludes extending the scope of equivalents in this case. The Court’s Claim Construction Order makes clear that the “short transitions” limitation requires that the sum of all transition times be less than 20% of the overall on-state and off-state times of the controlled rectifiers. ECF No. 4 at 20. [REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

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2. *SynQor Already Admitted During Claim Construction Proceedings That The Patentee Expressly Disclaimed CRs With Transitions Longer Than 20% And They Cannot Be Recaptured Through DOE*

Even if SynQor's doctrine of equivalents theory did not vitiate the "short transitions" limitation, the Court should still preclude the theory because the doctrine of equivalents cannot be used to recapture material that is expressly disclaimed by the patentee.

SynQor has already conceded that disclaimer applies here. During claim construction, Vicor took the position that statements in the specification, as well as SynQor's arguments in earlier reexaminations, constituted a clear and unmistakable disclaimer of all "resonant converters."⁹ No. 2:11-cv-54, ECF No. 280 at 5-9. SynQor, however, argued to the Court that the patents' specification and SynQor's prior prosecution arguments did *not* disclaim all resonant converters, but merely disclaimed those resonant converters with transition times longer than 20%. In SynQor's words:

SynQor did not distinguish *all* resonant converters. As Defendants do not dispute, the references SynQor was distinguishing. . . did not disclose transition times in the primary winding voltage waveform of less than 20% of the switching cycle, which is required for transitions to be "short" under both side's constructions.

2:11-cv-54, ECF No. 285, at 6 (emphasis original). The Court accepted this argument, ruling that "the passages together are indicative that converters which fail the 20% limitation are what was being excluded," and further stated the "natural reading of the prosecution history and the specification is that the 20% limitation was the point of distinction relied upon." 2:11-cv-54, ECF No. 306, at 20. Thus, in order to avoid a disclaimer of *all* resonant converters, SynQor was forced to admit disclaimer applied *at least* as to converters that exceed 20% transition times.

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SynQor’s doctrine of equivalents theory now improperly attempts to recapture what it previously admitted to the Court was disclaimed. The Federal Circuit has held that where the patentee specifically disclaims subject matter, that subject matter cannot be re-captured through the doctrine of equivalents. *David Netzer Consulting Eng’r LLC v. Shell Oil Co.*, 824 F.3d 989, 998 (Fed. Cir. 2016). In *Netzer*, the Federal Circuit found that the patentee repeatedly disclaimed conventional extraction from its fractionation process, both in the patent’s specification and prosecution history, and barred infringement based on the doctrine of equivalents. *Id.* at 996. In its summary judgment order, the district court construed “fractionation” to explicitly exclude conventional extraction because the prosecution history contained statements by the patentee asserting that the patented process was “particularly useful” for producing a product that need not have a purity over 99 wt %—a purity that conventional extraction would produce. *Id.* at 996. The district court further found that the patent’s specification distinguished conventional extraction as expensive and not required due to a shift in market demand. *Id.* at 995. With that construction in mind, the district court found, and the Federal Circuit affirmed, that the patentee disclaimed conventional extraction and barred a finding of literal infringement as well as infringement under the doctrine of equivalents. *Id.* at 998 (“The disclaimer of the [conventional extraction] process for literal infringement applies equally to infringement under the doctrine of equivalents.”).

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED] After SynQor repeatedly emphasized the novelty of the “short transitions” limitation, which it defined as less than 20%, to avoid disclaimer of all resonant converters, this Court construed “short transitions” to exclude converters which fail the 20%

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limitation based on the Asserted Patents' specification and prosecution history. Consequently, in accordance with *Netzer*, SynQor may *not* invoke the doctrine of equivalents to recapture subject matter they were found to disclaim above the 20% limitation.

3. *SynQor Also Emphasized "Short Transitions" As A Point Of Novelty To Avoid Invalidation In the Subsequent Reexaminations After The Court's Construction Issued*

To the extent its statements at claim construction are not already dispositive, SynQor left no doubt that it disclaimed transitions greater than 20% during the subsequent reexamination proceedings. Throughout the reexaminations since claim construction, SynQor repeatedly relied on "short transitions"—as construed by this Court—to distinguish prior art and avoid invalidation by the Federal Circuit and the USPTO. SynQor repeatedly emphasized "short transitions" of less than 20% as a purported point of novelty for both the '190 and '702 patents over the prior art. For example, SynQor made each of the following arguments to the USPTO:

- The ***broadest reasonable interpretation*** of "transition times which are short relative to the on state and the off-state times" consistent with the ***specification is what is explicitly disclosed in the specification and adopted by the U.S. District Court in the related litigation - less than 20%*** of the time is taken up by the transition. Ex. 10 (SynQor Response to Office Action (Control No. 95/001,853 for the '702 patent)) at 56. (emphasis added)
- "Third, the [prior art] drawings have no scale; [the prior art] ***lacks any numerical analysis that can be identified as 'less than 20%'***, regardless of where or how it might be measured." Ex. 11 (SynQor Appeal Brief (Control No. 95/001,207 for the '190 patent)) at 56 (emphasis added).
- "[The prior art] drawings ***do not illustrate the claimed element, nor does [it]. . . meaningfully disclose the claim element***: 'transition times which are ***less than 20%*** of overall on-state and off-state times of the controlled rectifiers.'" ('190 Patent, col. 8, lines 11-19). *Id.* at 62 (emphasis added).

In fact, in one reexamination appeal, the Federal Circuit invalidated the broader claims of the '190 patent that did not include the "short transitions" limitation as being anticipated by the prior art. *See Vicor Corp. v. SynQor, Inc.*, 603 Fed. Appx. 969, 974-75 (Fed. Cir. 2015). After

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the Court’s finding, SynQor was forced in a later reexamination proceeding to emphasize the “short transitions” limitation as a purported point of novelty going forward for both the ’190 and ’702 patents:

- “It should be noted that. . . the ’702 patent claims at issue in the *SynQor I* trial and at issue here include limitations that are not included in the ’190 patent claims found anticipated by the CAFC in the Vicor ’190 reexamination appeal, including short transitions in the primary winding voltage waveform[.]” Ex. 4 (SynQor Response to Office Action (Control No. 90/014,041 for the ’702 patent) at 138
- “[T]he ’702 claims at-issue in *SynQor I* -- and, in fact, all of the ’702 patent claims at issue in this Reexam. . . differ significantly from the anticipated ’190 claims because they require. . . short transitions in the primary winding voltage waveform.” *Id.* at 161.

SynQor went even further and repeatedly tied the alleged positive reception of SynQor’s own “Unregulated IBA” products to the “short transitions” limitations in both patents, for example:

- “An engineer at National Semiconductor described Unregulated IBA (with ***short transitions*** and switching regulators (POLs)) as ‘a revolution in the distributed-power architecture’ that was a ‘fundamental change’ from earlier designs.”
- “Similarly, a professor at Virginia Polytechnic described Unregulated IBA (with ***short transitions*** and switching regulators (multiphase buck converters)) as ‘one of the hottest products’ for server, telecom, and network applications.”

Ex. 4 (SynQor Response to Office Action (Control No. 90/014,041 for the ’702 patent) at 153-154, 155; Ex. 5 (SynQor Response to Office Action (Control No. 90/014,180 for the ’190 patent) at 100, 102 (emphases added).

SynQor’s emphasis on the “short transitions” limitation should bar its reliance on the doctrine of equivalents here. “Prosecution history estoppel applies as part of an infringement analysis to prevent a patentee from using the doctrine of equivalents to recapture subject matter surrendered from the literal scope of a claim during prosecution.” *Amgen Inc. v. Coherus BioSciences Inc.*, 931 F.3d 1154, 1159 (Fed. Cir. 2019). Prosecution history estoppel can arise equally either during the initial prosecution of a patent, or during reexamination. *See Festo Corp.*

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v. Shoketsu Kinzoku Kogyo Kabushiki Co., Ltd., 344 F.3d 1359, 1364 (Fed. Cir. 2003). Further, argument-based estoppel applies where the patentee evinced a clear and unmistakable surrender of subject matter. *See Conoco, Inc. v. Energy & Env't Int'l, L.C.*, 460 F.3d 1349, 1364 (Fed. Cir. 2006). “The relevant inquiry is whether a competitor would reasonably believe that the applicant had surrendered the relevant subject matter.” *Id.*

The relevant authority supports finding estoppel here. In *Amgen Inc. v. Coherus BioSciences Inc.*, for example, a Court found that argument-based prosecution history estoppel applied where Amgen, the patentee, repeatedly distinguished the limitations in its patent to overcome prior art by stating it did not teach the “*particular combinations of salts*” recited in the patented claims. 931 F.3d at 1160. Amgen highlighted its patented salt combination as more time and cost-efficient and never mentioned combinations other than those claimed. *Id.* Amgen then sought to enforce the limitations in the prior art under the doctrine of equivalents stating that the prior art was distinguished on the basis that it failed to disclose efficiencies or any salt combinations at all. *Id.* The Court found that a competitor would reasonably believe that Amgen surrendered the unclaimed salt combinations and applied argument-based estoppel to prevent Amgen from asserting doctrine of equivalents on this limitation. *Id.*

The holding of *Amgen* directly applies to bar SynQor’s flawed infringement theory. Here, SynQor never mentions transition times other than those it claims. There are at least six instances during prosecution where SynQor unmistakably distinguished prior art by highlighting the 20% transition cutoff, thereby longer disclaiming transition times. A competitor would reasonably believe that SynQor surrendered transitions longer than 20% of the CR cycle. As such, SynQor should be prevented from using the doctrine of equivalents to recapture subject matter surrendered from the literal scope of the claims during reexamination.

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IV. CONCLUSION

For the above stated reasons, the Court should **GRANT** this motion.

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Respectfully submitted,

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CERTIFICATE OF SERVICE

Pursuant to Local Rule CV-5(c), the undersigned hereby certifies that all counsel of record who have consented to electronic service are being served with a copy of this document via ECF on February 4, 2022.

/s/ Eric H. Findlay
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